

### REMARKS

Claims 5-8, 14-17, and 19-30 are pending. The specification has been amended to correct the typographical errors noted by the Examiner. Since these are the only amendments presented for consideration, it is respectfully submitted that entry of this paper is proper.

Reconsideration of the application is respectfully requested for the following reasons.

**I. The Rejection under 35 USC § 102(b).**

In the Final Office Action, the Examiner maintained his rejection of claims 5, 6, 14, and 15 for being anticipated by the Tajima patent, and extended this rejection to claims 21, 22, 28, and 29. The rejection of these claims is traversed for the following reasons.

In order for the Examiner's § 102 rejection to be upheld on appeal, the Examiner must show that the Tajima patent discloses all the features of claim 5 exactly. There can be no differences or omissions whatsoever.

In the Final Office Action, the Examiner relied on the gray-scale level adjustment means 75 to supply all the features of claim 5. The purpose of the gray-level adjustment means is to rearrange the sequence of sub-frames for displaying a frame of input data. This rearranging function is performed based on two input signals: (1) a vertical synchronization signal and (2) an RCA1 signal.

The vertical synchronization signal ( $V_{SYNC}$ ) causes frame counter 79 to generate a frame selection signal (FQ) for input into storage means 78. Storage means 78, then, selects the region that indicates the sequence of sustained discharge of the sub-frames for display. (See column 16, lines 34-40).

The RCA1 signal determines the sub-frame data to be read from the input data. More specifically, as disclosed at column 6, lines 50 and 51, the RCA1 signal corresponds to an upper order read column address of the sub-frame data to be read and displayed. (See column 6, lines 40-42).

Based on the FQ and RCA1 signals, the gray-level adjustment means selects which of a plurality of pre-stored sub-frame sequence patterns is to be used to display input data. However, neither signal (FQ or RCA1) is indicative of a detected gray-scale level distribution as recited in claim 5. That is, the Tajima patent does not disclose (1) “a gray level detector for the detecting a gray level distribution of a data” and (2) “an adjuster for adjusting at least one of the number of sustaining pulses or a subfield arrangement in accordance with a gray level distribution of said data.”

Regarding these features, in the Final Office Action the Examiner did not point out where a gray-level detector is shown in any of the drawings of the Tajima patent. Instead, the Examiner essentially indicated that such a detector was implicitly included in Tajima. More specifically, the Examiner indicated that the function of selecting a sequence of sub-frames based on FQ and RCA1 signals necessarily requires adjustment means 75 to also perform the

function of ***detecting*** a gray-level distribution. Applicants respectfully submitted that this is an improper reading of Tajima.

Specifically, the selection of a sequence in storage means 78 is performed based on FQ and RCA1 signals. In the Final Office Action, the Examiner acknowledged that the vertical synchronization signal ( $V_{\text{SYNC}}$ ) was not indicative of a gray-level distribution of data output from a detector. The same is true of the RCA1 signal.

That is, the Tajima patent expressly discloses that the RCA1 signal is merely indicative of a column address of frame data to be read. The Tajima patent does not disclose that the RCA1 signal is indicative of a gray-level distribution detected by a gray level detector, such as shown, for example, by reference numeral 7 in the non-limiting embodiment of Figure 6 of Applicants' drawings.

Contrary to the Examiner's assertion, the selection of a sub-frame sequence in storage means 78 therefore takes place without receiving gray-scale level distribution data from a gray-scale level detector. Moreover, the Tajima patent makes no disclosure, express or implied, of a gray level detector, or of adjusting a subfield arrangement based on a gray-scale level distribution detected by a detector. Absent a disclosure of these features, the Examiner cannot carry his burden of establishing a *prima facie* case of anticipation for this claim and its dependent claims.

Claim 6 recites that the "adjuster adjusts both the number of sustaining pulses and a sub-field arrangement in accordance with the gray level distribution of said data." (Emphasis added). The Tajima patent does not disclose these features, i.e., Tajima discloses re-arranging the sub-

fields of input data based on a frame selection signal (FQ) and a column address signal RCA1. Neither signal is indicative of a gray-scale level distribution of data generated from a detector as recited in claim 5. Consequently, Tajima also fails to disclose the features of claim 6.

Claim 29 recites that “the sub-field arrangements are predetermined to reduce contour noise for different regions having a largest portion of the gray-level distribution.” The Tajima patent does not disclose these features. In rejecting claim 29, the Examiner relied on the disclosure at column 42, lines 53-60, of Tajima. But this portion of Tajima only discloses selecting a sequence of sub-frames having an alternating arrangement of high and low weights.

Neither this portion nor any other portion of Tajima discloses predetermined sub-field arrangements for reducing contour noise for different regions having a largest portion of a gray-level distribution. Absent a disclosure of these features, it is respectfully submitted that claim 29 is allowable, not only by virtue of its dependency from claim 5 but also based on the features separately recited therein.

Claim 14 recites features similar to those which patentable distinguish claim 5 from the Tajima patent, e.g., “detecting a gray level distribution of a data” and “adjusting at least one of the number of sustaining pulses or a sub-field arrangement in accordance with a gray level distribution of said data.” Applicants respectfully submit that these features are sufficient to render claims 14 and its dependent claims allowable over the Tajima patent. Applicants further submit that claim 15 is separately allowable over Tajima as it recites features similar to those which patentably distinguish claim 6.

**II. The Rejections under 35 USC § 103(a).**

Claims 7, 8, 16, and 17 were rejected for being obvious in view of a Tajima-Tanabe combination. This rejection is traversed on grounds that the Tanabe patent does not teach or suggest the features of base claims 5 and 14 missing from the Tajima patent.

Claims 19 and 20 were rejected for being obvious in view of a Tajima-AAPA combination. This rejection is traversed on grounds that AAPA does not teach or suggest the features of base claim 5 missing from the Tajima patent.

Claims 23-27 and 30 were rejected for being obvious in view of Tajima taken alone. This rejection is traversed for the following reasons.

Claim 23 recites that the adjuster of claim 5 “generates a histogram of gray-level values corresponding to the gray-level distribution of said data, the adjuster performing said adjustment based on the histogram.” In the Final Office Action, the Examiner acknowledged that the Tajima patent does not teach or suggest these features.

Nevertheless, the Examiner took the position that the features of claim 23 would have been obvious to one of ordinary skill in the art, because these features “would allow for the determination of how the data is distributed and how it should be changed.” (See page 12).

Applicants respectfully submit that the Examiner’s reason for why the features of claim 23 would have been obvious is based purely on hindsight, which both the Board of Patent Appeals and the Federal Circuit have recognized to be improper for purposes of forming a § 103(a) rejection. Also, without citing a reference that specifically teaches or suggest the features

of claim 23, it is respectfully submitted that the Examiner cannot carry his burden of establishing a *prima facie* case of obviousness for this claim under MPEP § 2142 et seq.

Claim 24 recites that the detector of claim 5 “divides the gray-level distribution into a plurality of predetermined regions, and wherein the adjuster compares the gray-level distribution in the regions and adjusts the number of sustaining pulses in one or more of the predetermined sub-fields based on the comparison.” In the Final Office Action, the Examiner acknowledged that the Tajima patent does not teach or suggest these features.

Nevertheless, the Examiner took the position that the features of claim 23 would have been obvious to one of ordinary skill in the art, because these features “would allow for a more uniform brightness of the display over time.” (See pages 12-13).

Applicants respectfully submit that the Examiner’s reason for why the features of claim 24 would have been obvious is based purely on hindsight, and in fact was derived from reading Applicants’ own specification. The Examiner has pointed to no specific teaching or suggest of the features of claim 24 in any reference of record. Without such a reference, it is respectfully submitted that the Examiner cannot carry his burden of establishing a *prima facie* case of obviousness for this claim under MPEP § 2142 et seq.

Claim 25 recites that the adjuster of claim 5 “performs said comparison to determine a region having largest gray-level distribution and adjusts the number of sustaining pulses in one or more of the sub-fields to produce a corresponding change in brightness of the displayed image.”

Again, the Examiner acknowledged that the Tajima patent does not teach or suggest these features.

Nevertheless, the Examiner took the position that the features of claim 25 would have been obvious to one of ordinary skill in the art, because these features would “provide for a more uniform display output to the user for a better viewing experience.” (See page 13).

Applicants respectfully submit that the Examiner’s reason for why the features of claim 25 would have been obvious is based purely on hindsight, and in fact derived from reading Applicants’ own specification. The Examiner has pointed to no specific teaching or suggest of the features of claim 25 in any reference of record. Without such a reference, it is respectfully submitted that the Examiner cannot carry his burden of establishing a *prima facie* case of obviousness for this claim under MPEP § 2142 et seq.

Claim 26 recites that the adjuster of claim 5 “decreases the number of sustaining pulses to less than a predetermined references value when the largest gray-level distribution is located in a region corresponding to a low range of gray levels.” Again, the Examiner acknowledged that the Tajima patent does not teach or suggest these features.

Nevertheless, the Examiner took the position that the features of claim 25 would have been obvious to one of ordinary skill in the art, because “lower gray level regions don’t use as many sustaining pulses to create a desired brightness level.” (See pages 13-14).

Applicants respectfully submit that the Examiner's reason for why the features of claim 26 would have been obvious is based purely on hindsight. The Examiner has pointed to no specific teaching or suggest of the features of claim 26 in any reference of record. Without such a reference, it is respectfully submitted that the Examiner cannot carry his burden of establishing a *prima facie* case of obviousness for this claim under MPEP § 2142 et seq.

Claim 30 recite that "in a first arrangement, the number of sustaining pulses in the sub-fields changes in ascending order, in a second arrangement, the number of sustaining pulses in a first portion of the sub-fields changes in ascending order, the number of sustaining pulses in a second portion of the sub-fields includes a maximum number of sustaining pulses, and the number of sustaining pulses in a third portion of the sub-fields changes in descending order; and in a third arrangement, the number of sustaining pulses in a first portion of the sub-fields changes in ascending order and the number of sustaining pulses in a second portion of the sub-fields are set to a same number of sustaining pulses."

While the Tajima patent discloses selecting different sub-frame arrangements, Tajima does not disclose storing or otherwise selecting the arrangements recited in claim 30 in response to the output of a gray-scale level detector which generates a gray-level distribution of input data. Absent a teaching or suggestion of these features, it is respectfully submitted that the Tajima patent cannot render claim 30 obvious.



Serial No. 10/662,406  
Reply to Final Office Action of June 13, 2006

Docket No. YHK-0119

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and timely allowance of the application is respectfully requested.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,  
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**Date: AUGUST 21, 2006**

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